MILITARY SPECIFICATION SHEET

CABLES, RADIO FREQUENCY, FLEXIBLE COAXIAL, 75 OHMS,
M17/209-00001, UNARMORED, M17/209-00002, ARMORED.

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-17.

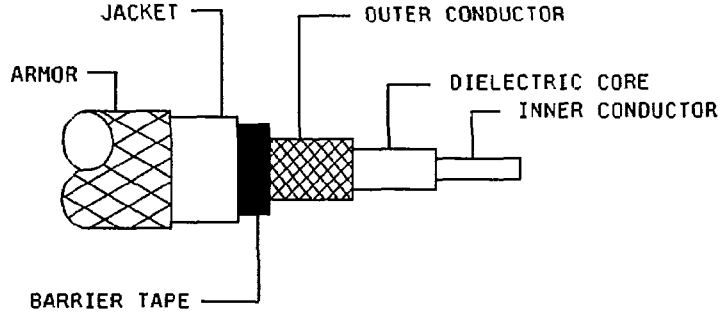

FIGURE 1. Configuration.

TABLE I. Description.

Components	Construction details
Inner conductor	Solid, bare, copper wire. Diameter: .1045 inch ±.0020.
Dielectric core	Type A-1: Solid polyethylene. Overall diameter: .680 inch ±.010.

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

TABLE I. Description - Continued.

Outer conductor	Single braid of AWG#30, bare, copper wire. Diameter: .760 inch maximum.		
			Alternate
	Coverage:	97.7% nominal	95.8% nominal
	Carriers:	48	24
	Ends:	7	14
	Picks/inch:	5.6 ±10%	3.1 ±10%
Barrier tape	A .001 inch thick polyester tape faced with a .002 inch thick layer of aluminum. The tape will be applied with a 50% lap, minimum. Aluminum face toward the outer conductor. Diameter: .770 inch, maximum.		
Jacket	Cross-linked polyolefin. Diameter: .870 inch ±.010.		
Armor M17/209-00002 only	Single braid of aluminum-alloy wire. Diameter: .945 inch maximum.		

ENGINEERING INFORMATION:

Continuous working voltage: 7,500 V rms, maximum.

Operating frequency: 1 GHz, maximum.

Velocity of propagation: 65.9 percent, nominal.

Power ratings: See figure 2.

Operating temperature range: -40° to +80°C, maximum.

Inner conductor properties:

DC resistance (maximum at +20°C): .027 ohms per 100 feet.

Elongation: 30 percent, minimum.

Engineering notes: This cable is useful in low temperature applications. (See connector series 'N', per MIL-C-39012; 'HN' per MIL-C-3643 and 'LC' per MIL-C-3650. Use this cable in new designs in-lieu-of MIL-C-17/64 cables.

The US Government preferred system of measurement is the metric SI system. However, since this item was originally designed using inch-pound units of measurement, in the event of conflict between the metric and inch-pound, the inch-pound units shall take precedence.

REQUIREMENTS:

Dimensions, configuration, and descriptions: See figure 1 and table I.

Environmental and mechanical:

Visual and mechanical examination: Applicable.

Out-of-roundness: Not applicable.

Eccentricity: 10 percent, maximum.

Adhesion of conductors:

Inner conductor to core: 7 pounds, minimum; 100 pounds, maximum.

Aging stability: +98° ±2°C.

Cold bend: -40° ±2°C.

Stress crack resistance: Not applicable.

Dimensional stability: +85° ±2°C.

Inner conductor from core: 0.200 inch, maximum.
Inner conductor from jacket: 0.400 inch, maximum.

Contamination: Not applicable.

Flame propagation: Applicable.

Acid gas generation: 2.0 percent, maximum.

Halogen content: 0.2 percent, maximum.

Immersion test:

Tensile strength, percent of unaged minimum: 50.

Elongation, percent of unaged minimum: 50.

Smoke index: 25 maximum.

Toxicity index: 5 maximum.

Durometer hardness: (Type A) 80 minimum.

Weathering: Applicable.

Abrasion resistance: 75 cycles, minimum (jacket only).

Tear strength: 35 pounds per inch minimum.

Heat distortion: 30 percent maximum distortion.

Physical tests on unaged jacket:

Tensile strength: 1,300 psi. minimum.

Elongation: 160 percent minimum.

Physical tests on aged jacket:

Air oven:

Tensile strength, percent minimum: 60.

Elongation, percent minimum: 60.

Hot oil immersion:

Tensile strength, percent minimum: 50.

Elongation, percent minimum: 50.

Tensile strength and elongation: 1,300 psi, 160 percent minimum.

Weight: 50.5 pounds per 100 feet maximum (M17/209-00001). 54.5 pounds per 100 feet maximum (M17/209-00002).

Electrical:

Spark test: 8,000 V rms, minimum.

Voltage withstanding: 22,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 10,000 V rms, minimum.

Characteristic impedance: 75 ohms ±3.

Attenuation: 2.8 dB per 100 feet, maximum at .4 GHz; 6 dB per 100 feet, maximum at 1 GHz.

Structural return loss: Not applicable.

Capacitance: 22 pF per foot, maximum.

Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Mechanically induced noise: Not applicable.

Time delay: Not applicable.

Part or Identifying Number (PIN): M17/209-00001 and -00002.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 85

Review activities:
Army - AR, AT, ME, MI
Navy - AS, MC, OS, SH
Air Force - 11, 19, 80, 99
DLA - ES, IS

Preparing activity:
Navy - EC

Agent:
DLA - ES

(Project 6145-2040-03)

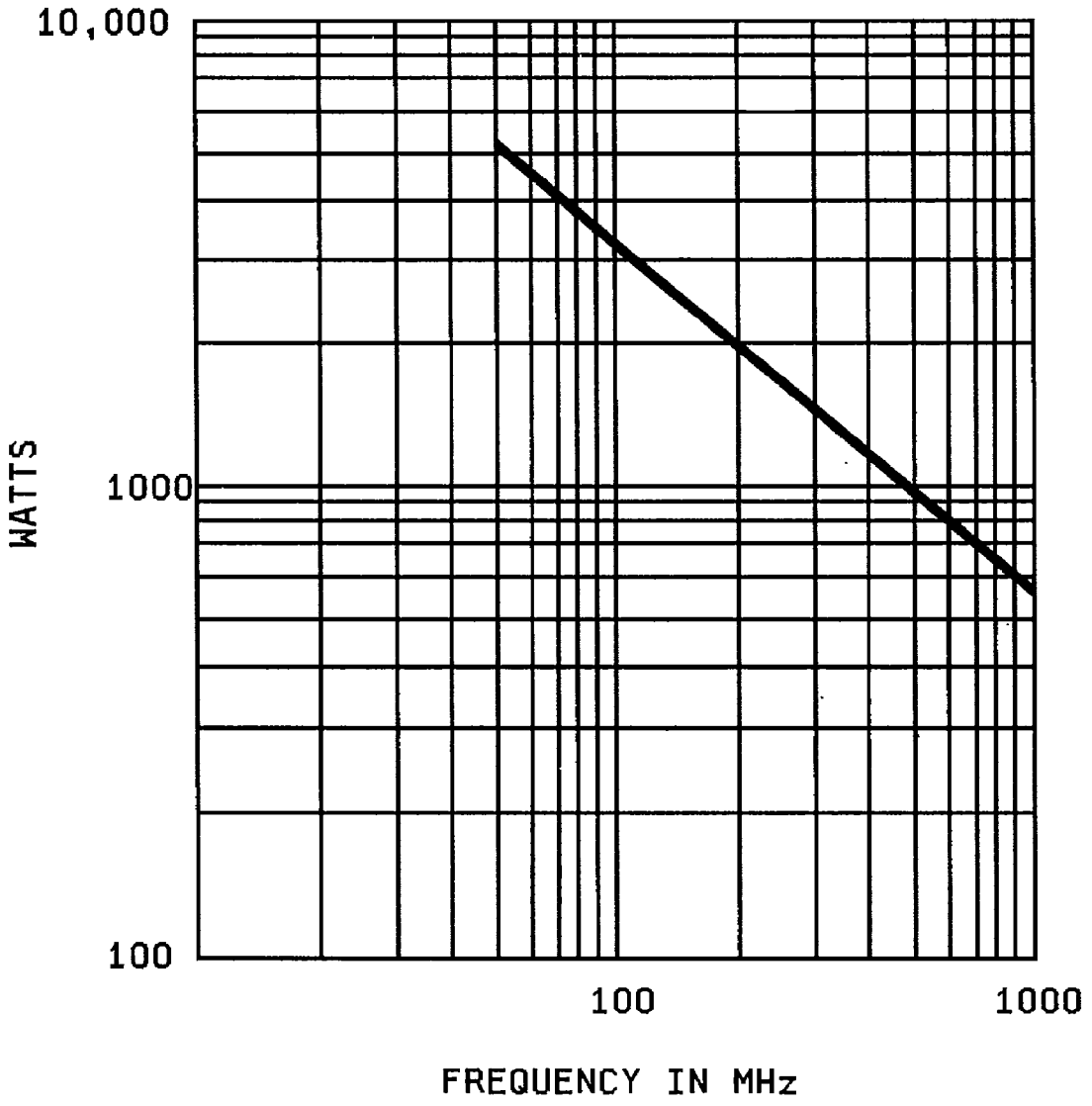

FIGURE 2. Power rating at 25°C sea level.